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MetaEdge Corporation 5201 Great America Parkway Suite 238 Santa Clara, CA 95054				EHICHOYA, FRED I
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/827,969	Applicant(s)	CHEN ET AL.
Examiner	Fred I. Ehichioya	Art Unit	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 April 2005.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1 - 8, 10 - 17, 20 - 35, and 46 - 57 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1 - 8, 10 - 17, 20 - 35, and 46 - 57 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/20/2005. 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

1. Claims 1 – 8, 10 – 17, 20 – 35 and 46 – 57 are pending in this Office Action.

Response to Arguments

2. (a) Applicants' rebuttal to Examiner's assertion that the "first concept centric subject model" is not defined by the claim or the specification argue on page 11, paragraph 6 that "first concept centric subject model" is disclosed on page 13, lines 1 – 3 of the specification.

Examiner agrees that "a central concept 607 of a product" is disclosed on the cited page and lines of the specification. However, Examiner does not see "first concept centric subject model" as disclosed in the claims in the above cited page and lines

Applicants should please note that the question is not whether "Derived subject model", "a product centric view" or "central concept 607 of a product are disclosed in the specification; rather the point of contention is that "first concept centric subject model" is not defined in the specification or the claims. Therefore, applicants' arguments, the specification and claims fail to provide such disclosure or definition of "first concept centric subject model".

- (b) Applicants argue that neither Kingberg nor Durflinger, alone or in any combination teach, suggest or otherwise render obvious such "determining derived subject models with a central concept" (Page 13, paragraph 4).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., determining derived subject models with a central concept) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(c) Applicants also argue that the modification of Kingberg by Durflinger's reference would be drawn via impermissible hindsight from the present application (Page 13, paragraph 4).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

3. In view of the above response and disclosures, Examiner contends that the rejection of the last Office Action is proper.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 51 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is nonstatutory, despite the fact that it might inherently have some usefulness, Sarkar, 588 F.2d at 1335, 200 USPQ at 139. For such subject matter to be statutory, the claimed must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts, Alappat, 33 F.3d at 1543, 31 USPQ2d at 1556-57.

In practical terms, claims are define nonstatutory processes if they simply manipulate abstract ideas, e.g., a bid or a bubble hierarchy, without some claimed practical application, Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59; Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759.

Regarding claim 51, that recite "a method for managing information" merely manipulate an abstract idea, and hence nonstatutory because it does not represent a practical application of the idea.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 51 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure that is not enabling. Computer application is critical or essential to the practice of the invention, but not included in the claim(s), therefore, is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 - 4, 7, 8, 10 -13, 16, 17, 20 - 23, 26 – 31, 34, 35 and 51 - 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,734,887 issued to Denis G. Kingberg et al (hereinafter "Kingberg") in view of U.S. Patent 5,713,014 issued to Kevin Durflinger et al (hereinafter "Durflinger").

Regarding claim 1, Kingberg teaches modeling a first plurality of information entities, including a first entity and a second entity, using a first logical model (see FIG.4, column 5, lines 40 – 41, and column 6, lines 40 – 59 and column 6, lines 41 - 54);

converting said first derived subject model into a first physical model (see column 18, lines 37 – 62); and

mapping at least one relationship between said first entity and said second entity of said first plurality of information entities based upon said first physical model (see FIG.4, column 6, lines 59 – 67 and column 7, lines 1 – 9).

Kingberg does not explicitly teach converting said logical model into a first concept centric subject model (derived subject model).

Durflinger teaches converting said logical model into a first concept centric subject model (derived subject model) (see Figs. 8, 9 and column 8, lines 15 – 23).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Durflinger's teaching of "converting said logical model into a first concept centric subject model" would have allowed Kingberg's system to support a variety of logical models including relational models, and further supports a plurality of industry-standard application program interfaces using SQL query access language as suggested by Durflinger (see Abstract).

Claims 10 is essentially the same as claim 1 except that it sets forth the claimed invention as a computer product rather than a method for managing information and therefore rejected for the same reasons as applied hereinabove.

Regarding claims 2, 11, 21 and 29, Kingberg teaches first logical model comprising at least one of a central concept entity, a static attribute entity, a dynamic attribute entity, an activities/events entity (see column 19, lines 60 – 67 and column 20, lines 1 – 23).

Regarding claims 3, 12, 22 and 30, Kingberg teaches said first derived subject model comprising at least one of a core component, and at least one of a plurality of customized group components (see column 6, lines 57 – 65).

Regarding claims 4, 13, 23 and 31, Kingberg teaches analyzing said first plurality of information entities using applications based upon input of said first logical model (see column 6, lines 44 – 49 and column 20, lines 26 – 32).

Regarding claims 7, 16, 26 and 34, Kingberg teaches modeling a second plurality of information entities, including a first entity and a second entity, using a second logical model (see column 7, lines 32 – 40, column 20, lines 42 – 45 and column 29, lines 20 – 30);

converting said second logical model into a second derived subject model (column 7, lines 40 – 43 and column 20, lines 53 – 57);

converting said second derived subject model into a second physical model (see column 7, lines 47 – 49); and

mapping at least one relationship among said first entity and said second entity of said second plurality of information entities based upon said second physical model (see column 7, lines 53 – 55).

Regarding claims 8, 17, 27 and 35, Kingberg teaches analyzing said first plurality of information entities and said second plurality of information entities using applications based upon input from said first logical model and said second logical model, said applications deriving new relationships between said first plurality of information entities and said second plurality of information entities (see FIG.4, column 6, lines 40 – 59, column 7, lines 32 – 55 and column 20, lines 26 – 32).

Regarding claim 20, Kingberg teaches a processor (see column 29, line 24); and

a memory (see column 29, lines 25 – 28);
wherein said processor is operative to model a first plurality of information entities, including a first entity and a second entity, using a first logical model (see FIG.4, column 5, lines 40 – 41, and column 6, lines 40 – 59 and column 6, lines 41 - 54); and to convert said first derived subject model into a first physical

model (see column 18, lines 37 – 62); and thereupon to map at least one relationship between said first entity and said second entity of said first plurality of information entities based upon said first physical model (see FIG.4, column 6, lines 59 – 67 and column 7, lines 1 – 9); wherein said first entity and said second entity are stored in said memory (see FIG.4; column 6, lines 40 – 67, column 7, lines 1 – 9, column 18, 43 – 46, lines 60 – 62 and column 29, line 24).

Kingberg does not explicitly teach said processor is further operative to convert said logical model into a first concept centric subject model (derived subject model).

Durflinger teaches said processor is further operative to convert said logical model into a first concept centric subject model (derived subject model) (see Figs. 8, 9 and column 8, lines 15 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Kingberg with the teaching of Durflinger to produce DBMS that supports application programs interfaces which can present to its users a variety of logical models using industry-standard interfaces, while the physical storage of data is managed in manner that closely follows the data model. The advantage is that this system stores complex data according to entity-relationship data model wherein only related data objects are stored for each set relationship.

Regarding claim 28, Kingberg teaches a processor (see column 29, line 24);

a memory (see column 29, lines 25 – 28); and

a display; wherein said processor causes said display (see column 29, line 24 and lines 29 – 30) to:

display a first logical model, said first logical model modeling a first plurality of information entities, including a first entity and a second entity (see FIG.4, FIG.8A – 8C and column 6, lines 40 – 59);

display a first physical model, said first physical model obtained from said first derived subject model; wherein at least one relationship between said first entity and said second entity of said first plurality of information entities exists based upon said first physical model (see FIG.4, column 60 – 67 and column 20, lines 1 – 20).

Kingberg does not explicitly teach display a first concept centric subject model (derived subject model), said first derived subject model obtained from said logical model.

Durflinger teaches display a first concept centric subject model (derived subject model), said first derived subject model obtained from said logical model (see Figs. 8, 9 and column 8, lines 15 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Kingberg with the teaching of Durflinger to produce DBMS that supports application programs interfaces which can present to its users a variety of logical models using industry-standard

interfaces, while the physical storage of data is managed in manner that closely follows the data model. The advantage is that this system stores complex data according to entity-relationship data model wherein only related data objects are stored for each set relationship.

Regarding claim 51, Kingberg teaches a method for managing information, comprising:

modeling a plurality of information entities, including a first entity and a second entity, with a multi-subject logical model (see Fig. 4 and column 5, lines 48 – 50);
mapping at least one relationship between the first entity and the second entity based upon the at least one physical model (see column 6, line 57 – column 7, line 9).

Kingberg does not explicitly teach second centric concept as claimed.

Durflinger teaches determining from the multi-subject logical model a first derived subject model having a first centric concept selected from the first entity and a second entity and a second derived subject model having a second centric concept selected from the first entity and a second entity ((see Figs. 8, 9 and column 8, lines 15 – 23); and

determining from the first derived subject model and the second derived subject model, at least one physical model (see fig. 9 and column 8, lines 14 – 23).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Durflinger's teaching of "determining from the first derived subject model and the second derived subject model, at least one physical model" would have allowed Kingberg's system to support a variety of logical models including relational models, and further supports a plurality of industry-standard application program interfaces using SQL query access language as suggested by Durflinger (see Abstract).

Regarding claim 52, Kingberg teaches wherein determining from the multi-subject logical model a first derived subject model having a first centric concept selected from the first entity and a second entity and a second derived subject model having a second centric concept selected from the first entity and a second entity (see Fig. 4 and column 6, lines 40 – 50), comprises:

Kingberg does not explicitly disclose product centric as claimed.

Durflinger discloses determining a product centric derived subject model from a multi-subject logical model (see Fig. 25).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Durflinger's teaching of "a product centric derived subject model" would have allowed Kingberg's system to support a variety of logical models including relational models, and further supports a plurality of industry-

standard application program interfaces using SQL query access language as suggested by Durflinger (see Abstract).

Regarding claim 53, Kingberg teaches wherein determining from the multi-subject logical model a first derived subject model having a first centric concept selected from the first entity and a second entity and a second derived subject model having a second centric concept selected from the first entity and a second entity, comprises (see Fig. 4 and column 6, lines 40 – 50):

Kingberg does not explicitly teach customer centric derived subject model as claimed.

Durflinger teaches determining a customer centric derived subject model from a multi-subject logical model (see Fig. 25).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Durflinger's teaching of "a customer centric derived subject model" would have allowed Kingberg's system to support a variety of logical models including relational models, and further supports a plurality of industry-standard application program interfaces using SQL query access language as suggested by Durflinger (see Abstract).

Regarding claim 54, Kingberg teaches determining from the first derived subject model and the second derived subject model, at least one physical model comprises:

determining from the first derived subject model and the second derived subject model, at least one physical model comprising a database schema for populating a database (see column 5, lines 17 – 23).

Regarding claim 55, Kingberg teaches wherein mapping at least one relationship between the first entity and the second entity based upon the at least one physical model comprises:

mapping at least one relationship between the first entity and the second entity into a database based upon the at least one physical model (see column 7, lines 53 – 55).

Regarding claim 56, Kingberg teaches wherein determining from the first derived subject model and the second derived subject model, at least one physical model comprises:

dynamically deriving attributes and profiles from static data in the plurality of information entities to create a star schema physical model (see column 2, lines 10 – 17).

Regarding claim 57, Durflinger teaches providing the star schema as a multidimensional cube report (see column 6, lines 20 – 24).

7. Claims 5, 14, 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingberg in view Durflinger and further in view of The OLAP COUNCIL, OLAP and OLAP Server Definitions, The OLAP Council, Copyright 1995 (hereinafter "OLAP").

Regarding claims 5, 14, 24 and 32, Kingberg or Durflinger does not explicitly teach said applications comprising at least one of statistics, a report generator, an On Line Analytical Processing (OLAP) package, and a data mining application.

OLAP teaches said applications comprising at least one of statistics, a report generator, an On Line Analytical Processing (OLAP) package, and a data mining application (see pages 1 – 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Kingberg and Durflinger with the teaching of OLAP wherein users gain insight into the meaning contained in databases by using OLAP objective of multi-dimensional analysis. The motivation being that a multi-dimensional structure is arranged so that every data item is located and accessed based on the intersection of the dimension members which defined that item; OLAP functionality is characterized by dynamic multi-dimensional analysis of consolidated enterprise data supporting end user analytical and navigational activities.

8. Claims 6, 15, 25, 33, 46, 47, 48, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingberg in view of Durflinger and further in view of U.S. Patent 6,490,590 issued to Ronald Fink (hereinafter "Fink").

Regarding Claims 6, 15, 25 and 33, Kingberg teaches said processor maps at least one relationship between said first entity and said second entity of said first plurality of information entities based upon said first physical model (column 7, lines 53 – 55).

Kingberg or Durflinger does not explicitly teach create metadata information for said models; and

save said metadata information in a repository.

Fink teaches create metadata information for said models (see FIG.3A step 302); and save said metadata information in a repository (see FIG.3A step 308).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Kingberg and Durflinger with the teaching of Fink wherein metadata information in a repository is saved when said processor maps at least one relationship between said first entity and said second entity of said first plurality of information entities based upon said first physical model. The motivation being that as additional metadata is identified, object oriented utility routines to support the metadata are created and added to the set of predefined routines. The utility routines are for extracting, loading,

cleansing, transforming, and house holding metadata in the database management system.

Regarding claim 46, Fink teaches retrieving metadata information from a repository (see column 2, lines 30 – 33, column 6, lines 7 – 10 and column 7, lines 4 – 7);

creating at least one of a plurality of commands based upon said metadata information (see column 4, lines 4 – 6 and column 6, lines 10 – 18);

sending said at least one of a plurality of commands to a database (see column 5, lines 20 – 22);

providing information received from said database responsive to said at least one of a plurality of commands to at least one of a plurality of applications (see column 4, lines 56 – 60 and column 5, lines 11 – 25); and

creating at least one of a plurality of reports from a result of said at least one of a plurality of applications (see column 5, lines 55 – 58 and column 8, lines 2 – 5).

Regarding claim 47, Fink teaches said metadata information comprises at least one of a model, a mapping, a derived attributes definition, and a profiling definition (see column 5, lines 46 – 61).

Claims 48 is essentially the same as claim 46 except that it sets forth the claimed invention as a computer product rather than a method and therefore rejected for the same reasons as applied hereinabove.

Regarding claim 49, Fink teaches a processor (see column 3, lines 51 – 54); and

a memory (see column 3, lines 54 – 55);

wherein said processor is operative to retrieve metadata information from a repository (see column 6, lines 7 – 10); create at least one of a plurality of commands based upon said metadata information (see column 4, lines 4 – 6 and column 6, lines 10 – 18); send said at least one of a plurality of commands to a database (see column 5, lines 20 – 22); provide information received from said database responsive to said at least one of a plurality of commands to at least one of a plurality of applications (see column 5, lines 11 – 19); and create at least one of a plurality of reports from a result of said at least one of a plurality of applications (see column 8, lines 2 – 5).

Regarding claim 50, Fink teaches a processor (see column 3, lines 51 – 54);

a memory (see column 3, lines 54 – 55); and

a display; wherein said processor causes said display to display at least one of a plurality of reports from a result of at least one of a plurality of applications acting upon information received from a database responsive to at least one of a plurality of commands created based upon a metadata information retrieved from a repository (see column 4, lines 4 – 6, column 5, lines 11 – 22, column 6, lines 7 – 8 and column 8, lines 2 – 5).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 571-272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2162

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred I. Ehichioya
Patent Examiner
Art Unit 2162

July 8, 2005



SHAHID ALAM
PRIMARY EXAMINER